Appl. No. 10/041,845
Amdt. dated January 30, 2004
Reply to Office Action of October 2, 2003

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1.　(Currently amended)　A method for inducing insulin gene expression in cultured ~~endocrine pancreas β-cells~~ pancreatic cells, the method comprising the steps of:

(i) expressing a recombinant NeuroD/BETA2 polynucleotide and a recombinant PDX-1 polynucleotide in ~~endocrine pancreas β-cells~~ pancreatic cells that have been cultured under conditions such that the ~~β-cells~~ pancreatic cells are in contact with other cells in the culture; and

(ii) contacting the cells with a GLP-1 receptor agonist, thereby inducing insulin gene expression in the ~~β-cells~~ pancreatic cells.

2.　(Original)　The method of claim 1, wherein the GLP-1 receptor agonist is a GLP-1 analog.

3.　(Original)　The method of claim 1, wherein the GLP-1 receptor agonist has an amino acid sequence of a naturally occurring peptide.

4.　(Original)　The method of claim 3, wherein the GLP-1 receptor agonist is GLP-1, exendin-3, or exendin-4.

5.　(Original)　The method of claim 1, wherein the cells are cultured as aggregates in suspension.

6.　(Currently amended)　The method of claim 1, wherein the ~~β-cells~~ cells are ~~human~~ β-cells.

7.　(Currently amended)　The method of claim 1, wherein the ~~β-cells~~ cells express a recombinant oncogene.

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8.   (Currently amended) The method of claim 7, wherein the β-cells cells express more than one recombinant oncogene.

9.   (Currently amended) The method of claim 1, wherein the β-cells cells express a recombinant telomerase gene.

10.   (Currently amended) The method of claim 1 6, wherein the β-cells are βlox5 cells.

11.   (Canceled)

12.   (Currently amended) A stable culture of endocrine pancreas β-cells pancreatic cells, wherein the β-cells pancreatic cells are in contact with other cells in the culture, wherein the β-cells pancreatic cells express a recombinant PDX-1 polynucleotide and a recombinant NeuroD/BETA2 polynucleotide, and wherein insulin gene expression is stimulated in the β-cells pancreatic cells when exposed to an effective amount of a GLP-1 receptor agonist.

13.   (Original) The culture of claim 12, wherein the GLP-1 receptor agonist is a GLP-1 analog.

14.   (Original) The culture of claim 12, wherein the GLP-1 receptor agonist has an amino acid sequence of a naturally occurring peptide.

15.   (Original) The culture of claim 14, wherein the GLP-1 receptor agonist is GLP-1, exendin-3, or exendin-4.

16.   (Original) The culture of claim 12, wherein the cells are cultured as aggregates in suspension.

17.   (Original) The culture of claim 12, wherein the β-cells cells are human β-cells.

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18.   (Original) The culture of claim 12, wherein the ~~β-cells~~ <u>cells</u> express a recombinant oncogene.

19.   (Original) The culture of claim 18, wherein the ~~β-cells~~ <u>cells</u> express more than one recombinant oncogene.

20.   (Original) The culture of claim 12, wherein the ~~β-cells~~ <u>cells</u> express a recombinant telomerase gene.

21.   (Original) The culture of claim ~~12~~ <u>17</u>, wherein the β-cells are βlox5 cells.

22-30. (Canceled)

31.   (Original) An endocrine pancreas β-cell comprising a recombinant PDX-1 polynucleotide and a recombinant NeuroD/BETA2 polynucleotide.

32.   (Original) The β-cell of claim 31, wherein the β-cell is a human β-cell.

33.   (Original) The β-cell of claim 31, wherein the β-cell expresses a recombinant oncogene.

34.   (Original) The β-cell of claim 33, wherein the β-cell expresses more than one recombinant oncogene.

35.   (Original) The β-cell of claim 31, wherein the β-cell expresses a recombinant telomerase gene.

36.   (New) The method of claim 6, wherein the β-cells are human β-cells.

37.   (New) The method of claim 17, wherein the β-cells are human β-cells.